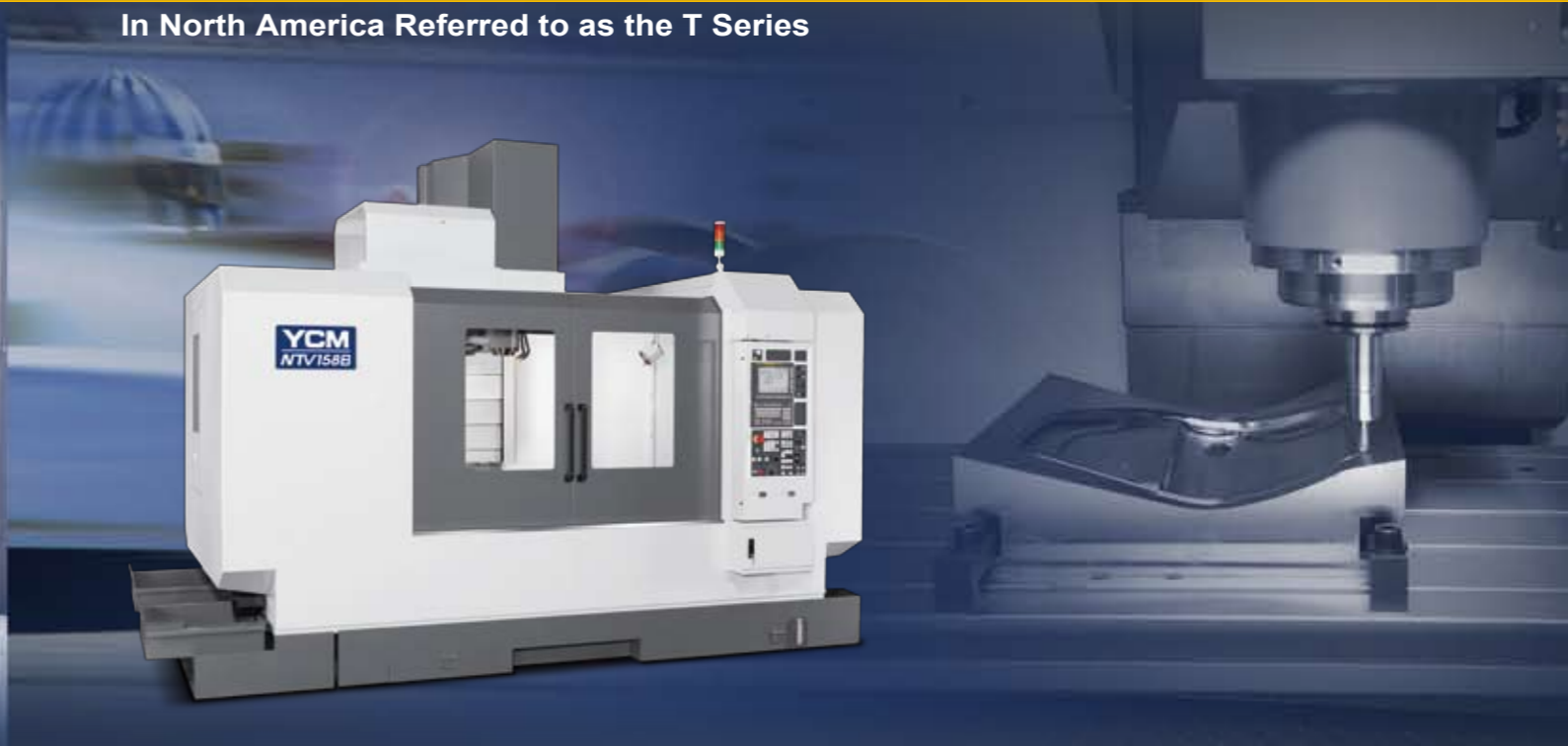


NTV Series

In North America Referred to as the T Series



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072012-E01-500



NTV158A

NTV158A offers a high rapid feedrate with large Y-axis which provides mold maker and job shop an excellent machine selection.

Unique One-piece T-base Structure Design

- With the unique T-base structure, the machine footprint can be reduced effectively.
- Overhang-free table movement is supported by high-rigidity base to ensure the best dynamic accuracy.
- Dual screw-type chip augers efficiently elevate chip removal rate.

YCM In-house IDD Spindle

- Equipped with YCM in-house IDD spindle, the standard speed can reach up to 10,000rpm.
- YCM's uniquely designed IDD Spindle ensures direct transmission and is proven to maximize both spindle and tool life under harsh working environments.
- The cooling system for spindle motor seat and spindle makes real time control of spindle temperature. (opt.)
- 12,000 & 15,000rpm spindle with oil-air lubrication system ensures the spindle to work for high-speed and long period of time. (opt.)

High Speed Axial Movement

- All axes are equipped with roller type linear guideways to ensure higher dynamic accuracy, durability and rigidity.
- Preload high precision ball screws are directly driven by servo motor will efficiently eliminate axial backlash and vibrations.
- X-axis with 6 guideway blocks fully supports the saddle and efficiently releases loading from the table.
- No more counter weight design on Z-axis reduces friction and ensures fine surface roughness.

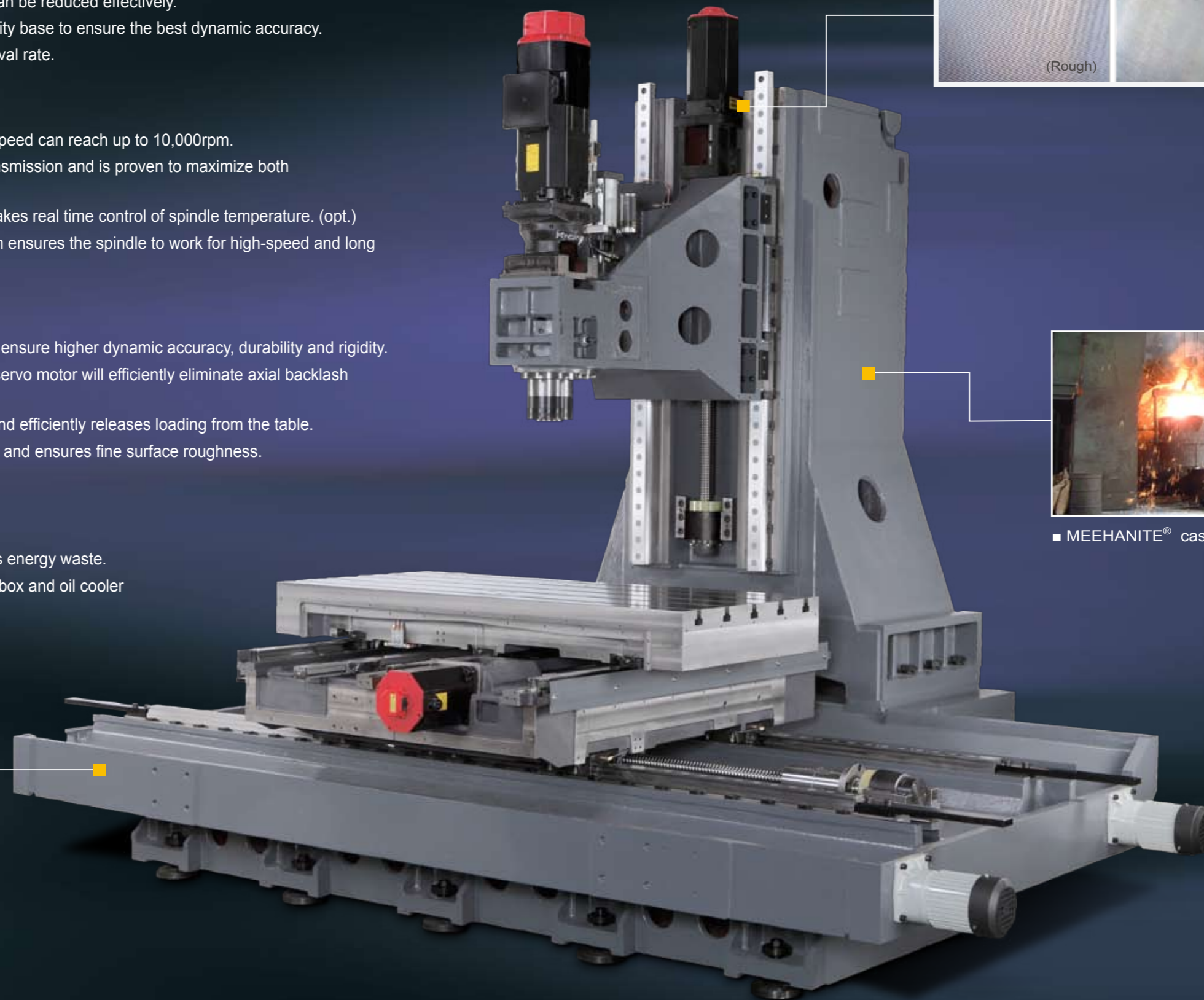
Efficiency-friendly Design

- The casting rigidity is enhanced through FEM analysis.
- Roller type guideways provides low friction which reduces energy waste.
- 10,000rpm IDD spindle lubricated by grease without gearbox and oil cooler to avoids wasting oil.

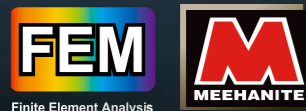
- Unique One-piece T-base Structure Design

Without Counter-weight Design

- High response axial control provides smooth movement.
- Low inertia avoids vibration during high speed feedrate.



■ MEEHANITE® casting.



NTV158B

NTV158B is specially developed for die & mold industry. The Z-axis dual drive system and roller type guideways on all axes ensure perfect rapid feedrate which is suitable for various heavy cutting applications.

Superb Body Structure

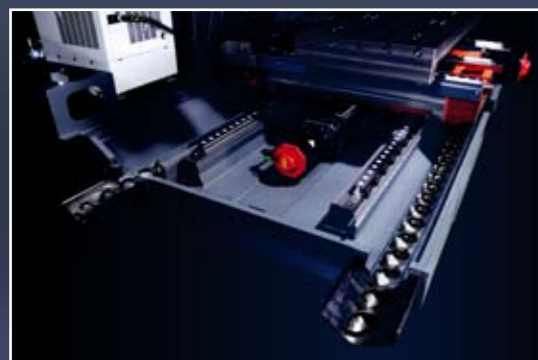
- With the unique T-base structure, the machine footprint can be reduced.
- The overhang-free table is supported by high rigidity base to ensure the best dynamic accuracy.
- Dual drive system on Z-axis elevates exceptional axial smoothness and machining efficiency.
- Dual chip augers greatly increase chip removal efficiency.

YCM In-house IDD Spindle Design

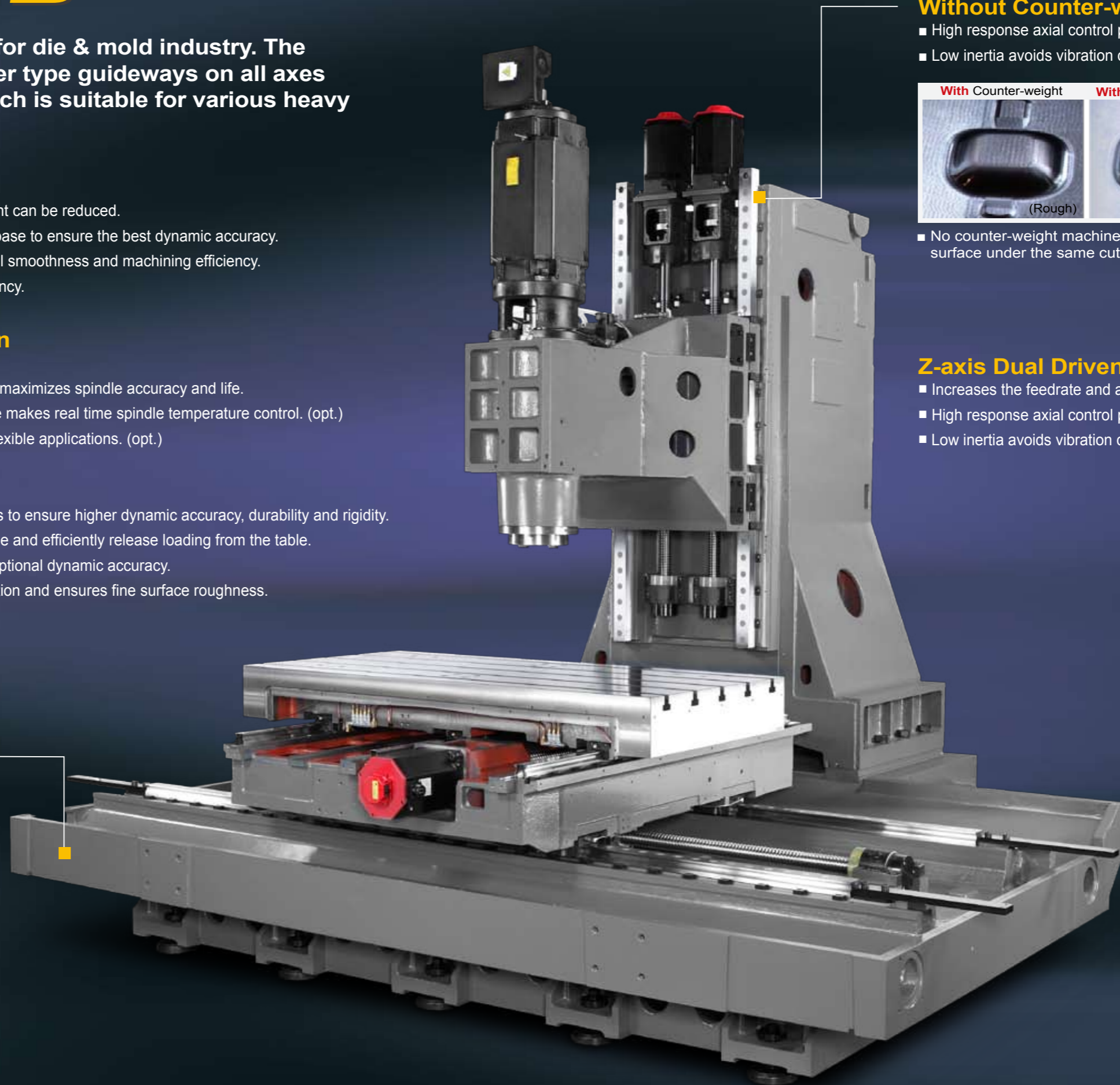
- The standard speed can be reached up to 7,000rpm.
- Reduces noise, backlash and vibration problems and maximizes spindle accuracy and life.
- The cooling system for spindle motor seat and spindle makes real time spindle temperature control. (opt.)
- 6,000, 10,000 and 15,000rpm spindle provide more flexible applications. (opt.)

High Reliability Axial Movement

- All axes are equipped with roller type linear guideways to ensure higher dynamic accuracy, durability and rigidity.
- X-axis with 6 guideway blocks fully supports the saddle and efficiently release loading from the table.
- Y-axis is designed with 3 guideways maintaining exceptional dynamic accuracy.
- Without counter-weight design on Z-axis provides friction and ensures fine surface roughness.

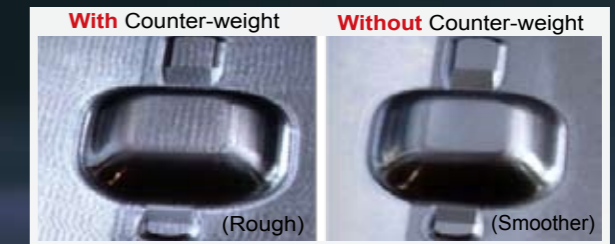


- Dual chip augers greatly increase chip removal efficiency.



Without Counter-weight Design

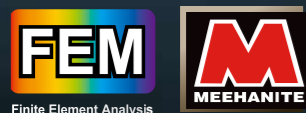
- High response axial control provides smooth movement.
- Low inertia avoids vibration during high speed feedrate.



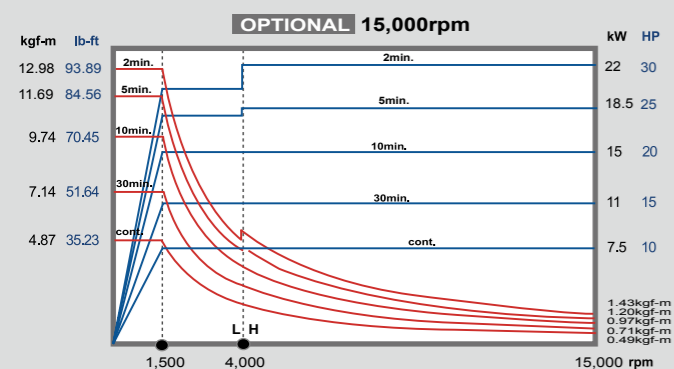
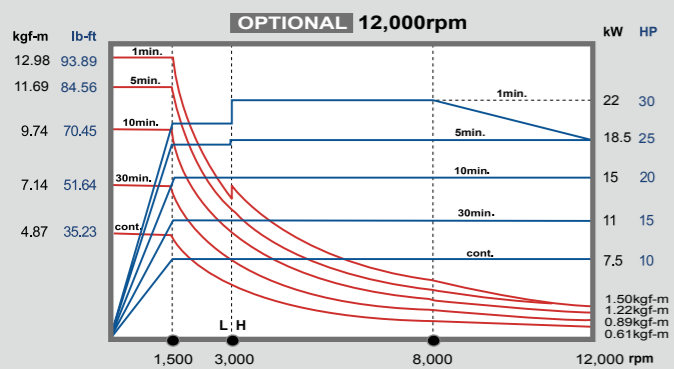
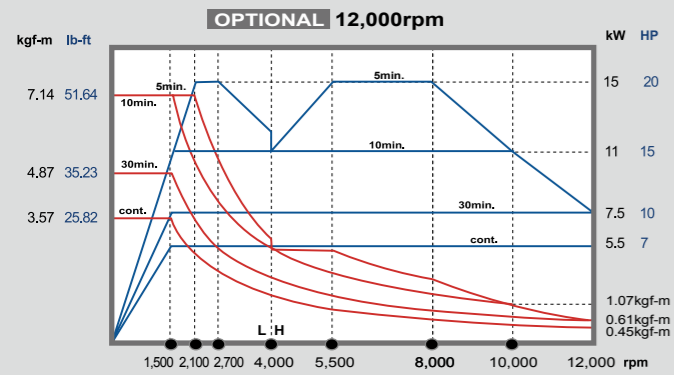
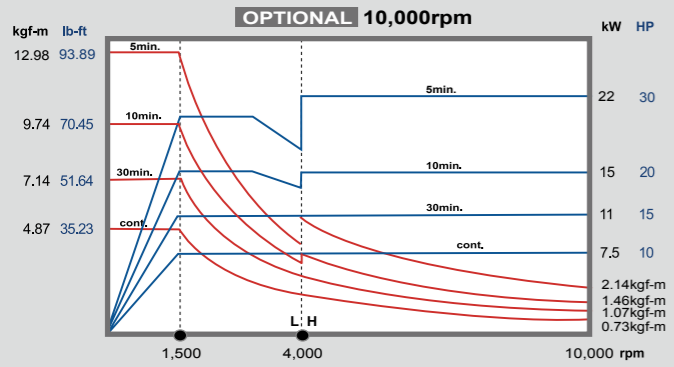
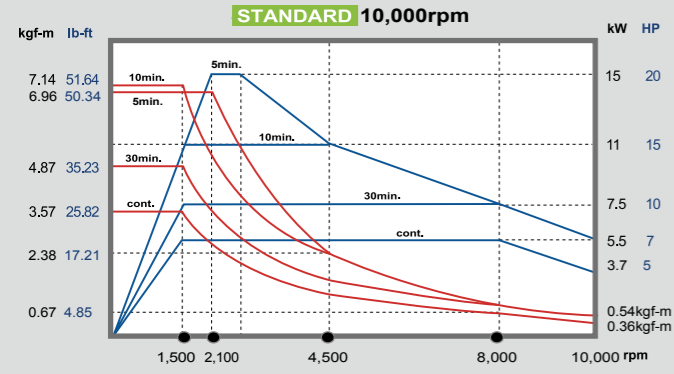
- No counter-weight machine gets smoother surface under the same cutting conditions.

Z-axis Dual Driven

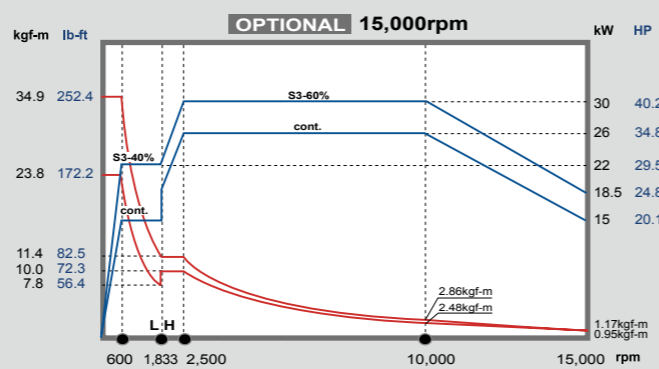
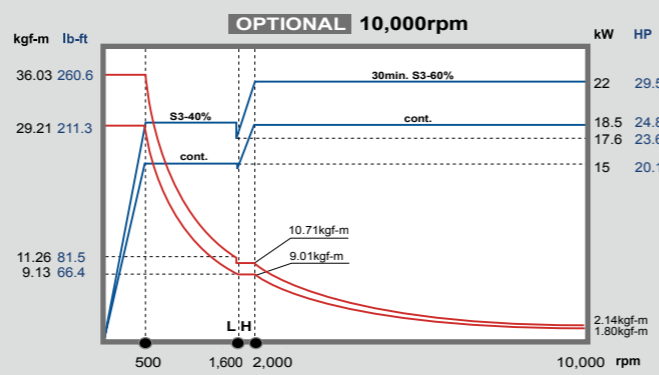
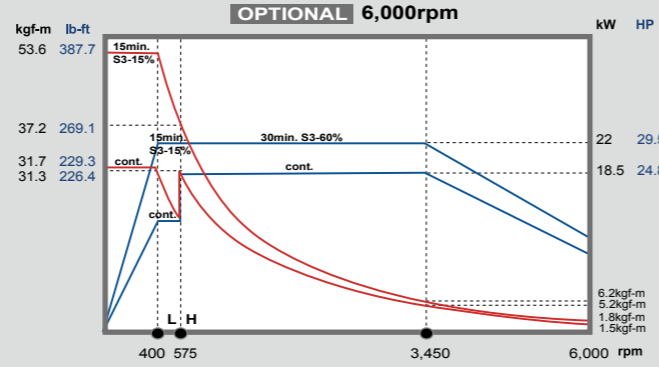
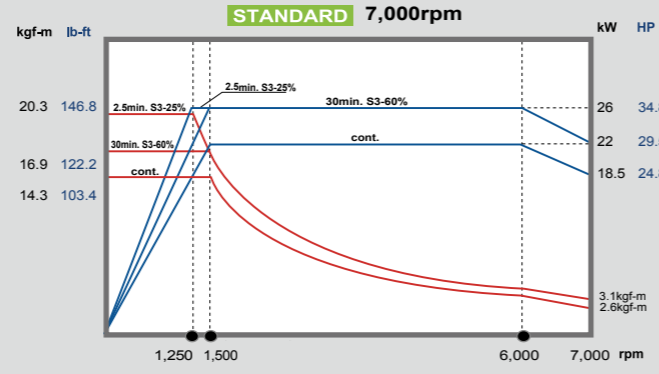
- Increases the feedrate and acceleration/deceleration.
- High response axial control provide smooth movement.
- Low inertia avoids vibration during high speed feedrate.



NTV158A Power Chart



NTV158B Power Chart



CUTTING TEXTS

NTV158A BT40

FACE MILL S45C Steel

Depth of Cut
4
mm

Tool $\varnothing 63\text{mm} \times 6\text{T}$
Spindle Speed 760rpm
Feedrate 456mm/min.
Width of Cut 60mm

FACE MILL S45C Steel

Material Removal Rate
522
cc/min.

Tool $\varnothing 63\text{mm} \times 6\text{T}$
Spindle Speed 2,100rpm
Feedrate 3,780mm/min.
Width of Cut 60mm
Depth of Cut 2.3mm

U-DRILL S45C Steel

Cutter Diameter
 $\varnothing 34$
mm

Tool $\varnothing 34\text{mm} \times 2\text{T}$
Spindle Speed 1,500rpm
Feedrate 225mm/min.

TAP S45C Steel

M24

Tool M24 x 3P
Spindle Speed 60rpm
Feedrate 180mm/min.

RIGID TAP Aluminum

#0-80UNF
equals to M1.6

Tool #0-80UNF
Spindle Speed 1,200rpm
Feedrate 381mm/min.

NTV158B BT50

FACE MILL S45C Steel

Depth of Cut
9
mm

Tool $\varnothing 160\text{mm} \times 10\text{T}$
Spindle Speed 500rpm
Feedrate 360mm/min.
Width of Cut 125mm

FACE MILL S45C Steel

Material Removal Rate
693
cc/min.

Tool $\varnothing 160\text{mm} \times 10\text{T}$
Spindle Speed 550rpm
Feedrate 1,232mm/min.
Width of Cut 125mm
Depth of Cut 4.5mm

U-DRILL S45C Steel

Cutter Diameter
 $\varnothing 49$
mm

Tool $\varnothing 49\text{mm} \times 2\text{T}$
Spindle Speed 715rpm
Feedrate 172mm/min.

NTV158B HSK A100

FACE MILL S45C Steel

Depth of Cut
4
mm

Tool $\varnothing 125\text{mm} \times 8\text{T}$
Spindle Speed 382rpm
Feedrate 305mm/min.
Width of Cut 120mm

FACE MILL S45C Steel

Material Removal Rate
720
cc/min.

Tool $\varnothing 125\text{mm} \times 8\text{T}$
Spindle Speed 600rpm
Feedrate 2,400mm/min.
Width of Cut 120mm
Depth of Cut 2.5mm

RIGID TAP Aluminum

#0-80UNF
equals to M1.6

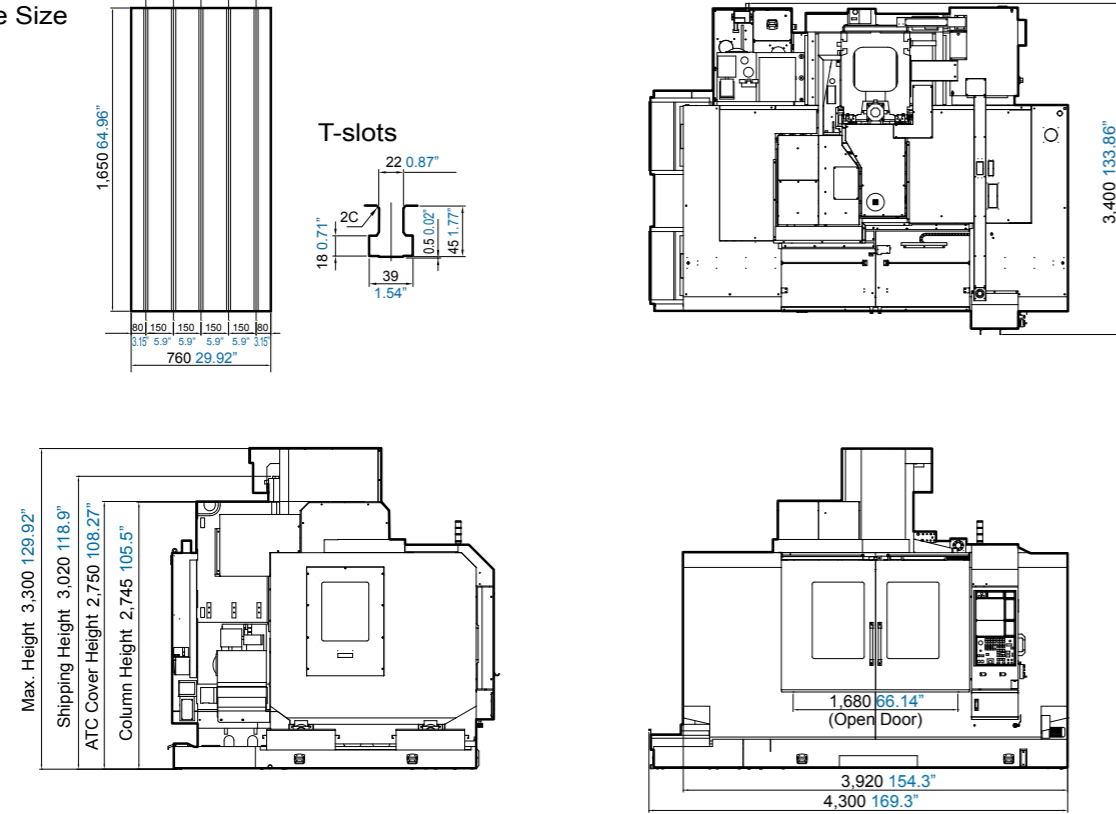
Tool #0-80UNF
Spindle Speed 1,200rpm
Feedrate 381mm/min.

DIMENSIONS

NTV158A

Unit : mm inch

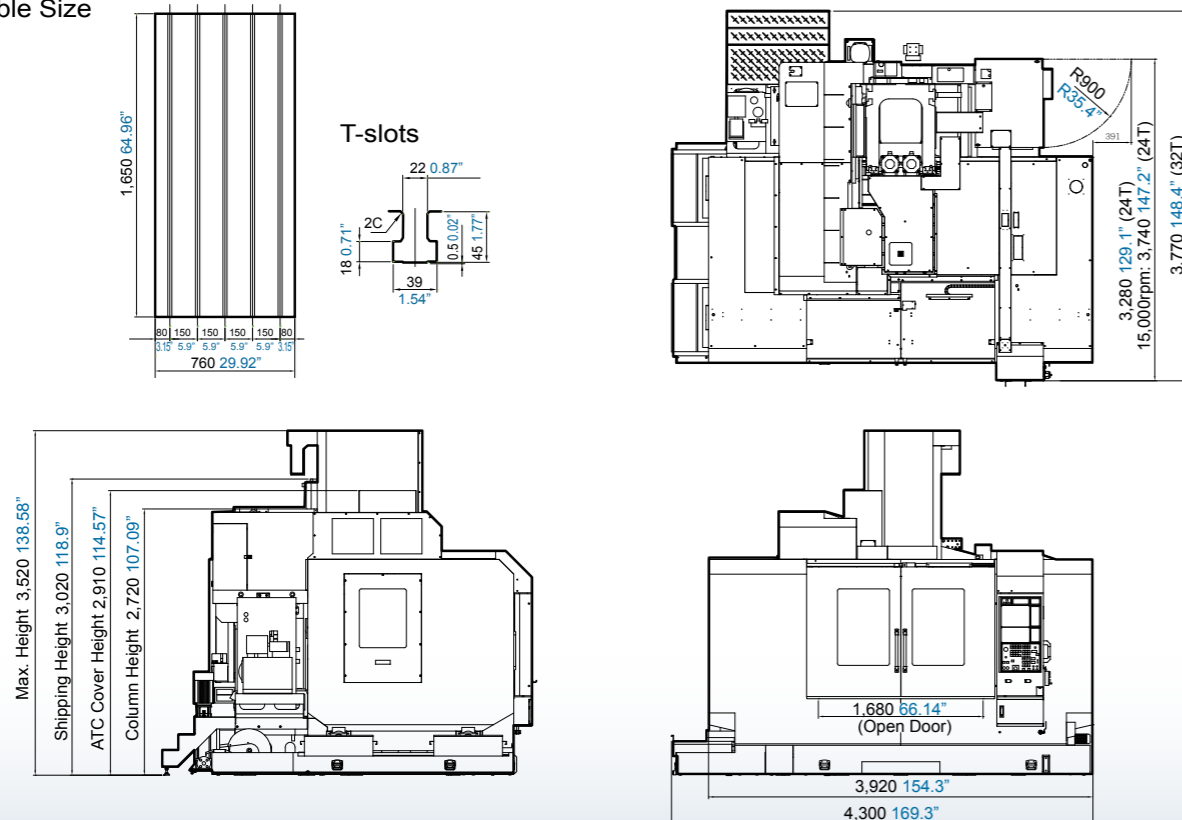
Table Size



NTV158B

Unit : mm inch

Table Size



SPECIFICATIONS

	NTV158A	NTV158B
SPINDLE		
Spindle Speed (opt.)	10,000rpm (12,000/15,000rpm)	7,000rpm (6,000/10,000/15,000rpm)
Spindle Power (opt.)	15kW (22kW) 20HP (30HP)	26kW (22/22/30kW) 35HP (30/30/40HP)
Spindle Taper	BBT40	BBT50 (HSK A100 for 15,000rpm)
TRAVEL		
X-axis Travel	1,530mm 60.2"	1,530mm 60.2"
Y-axis Travel	762mm 30"	762mm 30"
Z-axis Travel	700mm 27.6"	700mm 27.6"
Distance Between Spindle Nose & Table Top	150~850mm 5.91"~33.46"	200~900mm 7.87"~35.43"
TABLE		
Table Size	1,650 x 760mm 64.96" x 29.9"	1,650 x 760mm 64.96" x 29.9"
No. T-slots x Size x Pitch	5 x 22mm x 150mm 5 x 0.87" x 5.91"	5 x 22mm x 150mm 5 x 0.87" x 5.91"
Max. Load on Table	2,000kg 4,409 lb	2,000kg 4,409 lb
FEEDRATE		
Rapid Feedrate	30/30/24 m/min. 1,181/1,181/945ipm	30/30/24 m/min. 1,181/1,181/945ipm
Cutting Feedrate	1~10,000mm/min. 0.04~393.7ipm	1~10,000mm/min. 0.04~393.7ipm
ACCURACY (LINEAR)		
Positioning (ISO10791-4)	0.014mm 0.00055"	
Repeatability (ISO10791-4)	0.010mm 0.00039"	
Positioning (JIS B 6338)	0.004mm/300mm 0.00016"/11.81"	
Repeatability (JIS B 6338)	±0.003mm ±0.00012"	
ATC		
Tool Magazine Capacity (opt.)	24T (30/48T)	24T (32/40T)
Max. Tool Weight (per piece)	6kg 13.2 lb	20kg 44 lb
Max. Tool Dimensions	ø90 x 300mm (ø76 x 300mm) ø3.54" x 11.81" (ø2.99" x 11.81")	24T: ø110 x 350mm ø4.33" x 13.78" 32/40T: ø120 x 350mm ø4.72" x 13.78"
Max. Tool Dimensions (W/O Adjacent Tools)	ø140 x 300mm (ø125 x 300mm) ø5.51" x 11.81" (ø4.92" x 11.81")	24T: ø190 x 350mm ø7.48" x 13.78" 32/40T: ø240 x 350mm ø9.45" x 13.78"
Tool Changer Method	Arm Type	Arm Type
Tool Selection Method	Random	Random
GENERAL		
Pneumatic Supplier	40kVA (45kVA)	80kVA (80kVA)
Power Consumption	5.5kg/cm ² 78.2psi	5.5kg/cm ² 78.2psi
Machine Weight	14,170kg 31,293 lb	15,500kg 34,171 lb

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of the machine without notice. All the specifications shown above are just for reference.

ACCESSORIES

■ Standard ■ Option

- Work Lamp
- Pilot Lamp
- Safety Door
- Coolant Gun
- Coolant Equipment System
- Cutting Air Blast
- Spindle Air Seal
- Spindle Air Blast
- Central Lubrication System
- Oil Skimmer
- Guideway Cover (X,Y,Z)
- Leveling Blocks and Bolts
- Foundation Bolts (NTV158B)
- Mechanical, Electrical & Operating Manuals
- Heat Exchanger for Electrical Cabinet
- Full Chip Enclosure
- Dual Chip Augers (on both sides of X-axis)
- Air Gun
- Spindle Cooling System (NTV158B)
- Circular Coolant Nozzle (NTV158B)
- CNC Control: MXP-200FB
- CE
- Automatic Door
- Optical Scale
- Foundation Bolts (NTV158A)
- Oil-mist Collector
- Oil-mist Coolant System
- Chip Conveyor
- Chips Flush Coolant System
- A/C. Cooler for Electrical Cabinet
- 4th Axis Rotary Table
- Spindle Cooling System (NTV158A)
- Coolant Through Spindle System
- Heavy Duty Coolant Pump
- Workpiece Measurement System
- Auto Tool Length Measurement System
- Circular Coolant Nozzle (NTV158A)
- Oil Hole Holder Function
- CNC Control: MXP-200FC

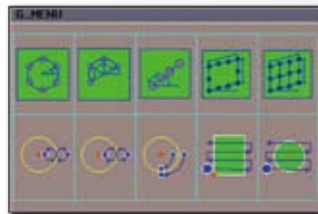
MXP-200 FB/FC

YCM CONTROL
by **FANUC**

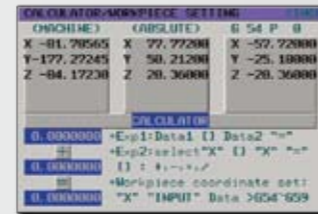
- High Performance AC Digital Servo & Spindle Drives with Super Precision Absolute Positioning Encoders
- AI NANO CNC Controller for High Precision Operation in Nanometers and Acknowledged HRV Control
- AICC II High Speed High Accuracy & Auto Switching on/off Machining Control Function
- High Speed High Accuracy Rigid Tapping, Helical Interpolation, Custom Marco B, and Tool Path Graphics
- Manual Guide i with Big & Double Screen Display (MXP-200FC, opt.)
- Program File Management for Easy Program Classifying
- USB Drive Port for Easy Parameters & CNC Programs Transfer
- Large Program Capacity with 1,280 Meters of Memory
- High Speed Positioning Function (MXP-200FC, opt.)
- Memory Card Program Edit & Operation (opt.)
- 3D Interference Check (opt.)
- NANO Smooth (opt.)



i OPERATION Plus
Software enhancement exclusively from YCM



G-menu Function
User-friendly G-menu function provides multiple machining cycles that greatly simplifies programming steps



Calculator Function
Convenient calculator function provides fast calculation and setting of workpiece offsets



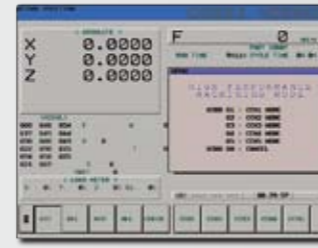
Easy Shop-floor Programming Manual Guide i
Easy to use conversational software offers convenience of part programming right on the shop-floor with 3D graphical display and full simulation function



Counter Function
Allows user to easily keep track on number of workpieces with:
 Main Counter
 Periodical Counter
 Daily Counter
 Over Cycle Alarm



Intelligent Tool Data Management
Comprehensive tool data management function allows operators to monitor and manage all positions in tool magazine



High Speed Machining Mode: M400
Combined with artificial intelligence, M400 provides users more convenient and easier ways of operation and achieves fast cycle time for the best machining result.



Pop-up Alarm Display
Detailed troubleshooting procedures will be automatically displayed when machine alarm occurs that allows users to restore machine status and minimize down time



Intelligent Maintenance Reminder
Pre-set maintenance schedules are programmed to remind operators to inspect periodically prolonging machine life



Automatic Tool Length Measurement
Pre-set macros and graphical procedure are provided for automatic tool length measurement function



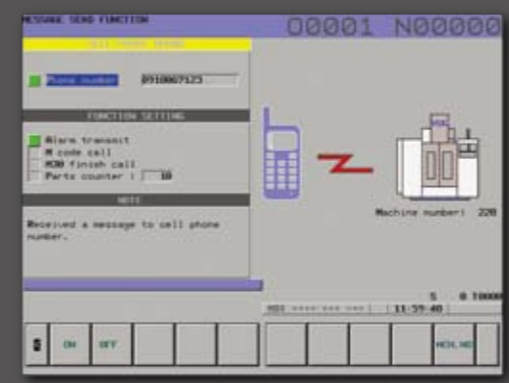
Manual Tool Length Measurement
Easy setup of tool length measurement provides convenient setting of tool offsets data from one tool to another



- Multi-function Display**
Easily select multiple windows from the following list of display for your monitoring needs.
- G-code Status
 - M-code Status
 - Spindle Status
 - Controller Running Hours
 - Feedrate
 - Tool Data
 - Work Coordination
 - Spindle Load
 - Parts Count
 - Machining Hours
 - Date and Time
 - Function Display



High Performance Machining Mode: M300
High performance mode with 5 settings allows users to select for the best machining results.



Wireless Message Notification (opt.)
Integrating GSM communication and CNC technology, YCM developed the WMN system for wireless notification of machine and work status report.



1. The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of the machine without notice. All the specifications shown above are just for reference.
 2. The functions of the controllers will be distinct due to different model and selectivity.